

Please add the following claims:

-- 77. An avirulent *M. marinum* bacterium, in which a gene has been disrupted adjacent to a nucleic acid of SEQ ID NOs: 4, 13, 23, 25, or 31.

78. An isolated *M. marinum* nucleic acid comprising the oligonucleotide of SEQ ID NOs: 4, 13, 23, 25, or 31, or a fragment or variant thereof; or which is complementary to, or which can hybridize under high stringency conditions to, at least a portion of said isolated nucleic acid or variant thereof.

79. A method to identify an agent which reduces the ability of an *M. tuberculosis* bacterium to survive in a host, comprising

a) overexpressing one of the following *M. tuberculosis* genes: Rv0822c, Rv3137 or Rv2348c in an *M. tuberculosis* bacterium,

b) exposing said bacterium to a putative agent, and

c) determining if the agent reduces the viability or growth of a wild type bacterium, but not the bacterium which overexpresses said gene, in a host.

80. An antibody against a polypeptide encoded by one of the following *M. tuberculosis* genes: Rv0822c, Rv3137 or Rv2348c.

81. An antibody against a peptide encoded by one of the following *M. marinum* polynucleotides: SEQ ID NOs: 4, 13, 23, 25, or 31.

82. An avirulent *M. marinum* bacterium, in which a gene comprising a nucleic acid that is at least 95% identical to SEQ ID NO: 4 is mutated.

83. An avirulent *M. marinum* bacterium of claim 82, wherein the nucleic acid comprises nucleotides 19 to 129 of SEQ ID NO: 4.
84. An avirulent *M. tuberculosis* bacterium, in which a polyketide gene is mutated to render the *M. tuberculosis* bacterium less virulent.
85. An avirulent *M. tuberculosis* bacterium of claim 84, in which the mutated polyketide gene is pks6 (Rv0405).
86. An avirulent *M. tuberculosis* bacterium of claim 84, in which the mutated polyketide gene is pks9 (Rv1664).
87. An avirulent *M. tuberculosis* bacterium of claim 84, in which the mutated polyketide gene is pks8 (Rv1662).
88. An avirulent *M. tuberculosis* bacterium of claim 84, in which the mutated polyketide gene is pks1 (Rv2946c).
89. An avirulent *M. tuberculosis* bacterium of claim 84, wherein said polyketide gene sequence is at least 95% identical to SEQ ID NO: 8. --
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